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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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10/530,516

10/05/2005

Motoki Hiraoka

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EXAMINER

BAREFORD, KATHERINE A

ART UNIT

PAPER NUMBER

1792

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |                                       |  |
|------------------------------|--------------------------------------|---------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/530,516 | <b>Applicant(s)</b><br>HIRAOKA ET AL. |  |
|                              | <b>Examiner</b><br>RONALD D. LAFOND  | <b>Art Unit</b><br>1792               |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/14/2008</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Response to Amendment*

1. The Amendments of January 11, 2008, were received and have been entered. Claims 1, 2, 4 – 6, 8, and 9 are acknowledged as amended. This Action is in response to amended Claims 1 – 9, which are currently pending.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 4 – 6, 8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogisu, et al. (Japanese Patent Application Publication Number 08 – 092752, hereafter Ogisu) in view of Harada (PAJ Translated Abstract for Japanese Patent Application Publication Number 01 – 092377).

4. Regarding Claims 1 and 5, Ogisu teaches a method for producing a member having a plated coating (see Paragraph [0001]) comprising: (a) in a pretreatment method for an electroless plating material, placing a resin material in contact with a first solution, said first solution containing ozone (see, e.g., Paragraph [0007]), and (b) electroless plating said resin material (see again Paragraph [0007]).

5. Regarding these Claims, Ogisu does not teach the limitations that the ozone is in a concentration of about 10 ppm or more, nor that the placing/contacting step is done while irradiating the resin material with ultraviolet rays. Regarding the first limitation, Ogisu does not explicitly teach the concentration of ozone employed in this method. However, it has been held that, generally, differences in concentration will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration is critical. See MPEP 2144.05. Also, "where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 f.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). Therefore, it would have been obvious and would have involved only routine experimentation to one having ordinary

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skill in the art at the time of the present invention to have modified the method taught by Ogisu by utilizing a solution containing ozone at a concentration of 10 ppm or more, because it has been held that it is not inventive to discover the optimum or workable ranges by routine experimentation.

6. Regarding the second limitation, as discussed, Ogisu does not teach that the placing/contacting step is done while irradiating the resin material with ultraviolet rays. However Ogisu does teach, in Paragraphs [0012] – [0015], that the step of contacting the member with the ozonated solution is done in order to roughen the surface. Harada teaches that it is known to roughen the surface of a member that is to be subsequently electroless plated by treating the member with gaseous ozone. Harada also teaches that this process is accelerated by doing so while exposing the member to ultraviolet irradiation (see Translated Abstract). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the present invention to have modified the method taught by Ogisu by irradiating the resin material with ultraviolet rays while said resin material is in contact with the ozone as taught by Harada in order to have accelerated the surface roughening step.

7. Although Applicants assert unexpected results summarized in Table 1, these results are not commensurate in scope with these Claims. For instance, at a treatment time of 7 or 10 minutes for Examples Nos. 1 and 2 (which are commensurate with the methods claimed in Claims 1 and 5), the results appear to be merely additive (or, indeed, slightly inferior) to the combined results given in Comparative Examples Nos. 1 and 2 at these time points. Furthermore, all of these results are for an ozone concentration of at least 80 ppm (as discussed in the Specification). See generally MPEP 716.02(d).

8. Regarding Claims 2 and 6, Ogisu teaches the method further comprising bringing said resin material, after said ozone solution-ultraviolet irradiation step and before said electroless plating process, into contact with a second solution containing an alkaline component (see, e.g., Paragraph [0031]).

9. Regarding Claims 4 and 8, Ogisu teaches the method wherein said first solution contains an inorganic polar solvent (water; see previous citations).

10. Regarding Claim 9, Ogisu teaches the method further comprising subjecting said resin material, after said electroless plating step, to electroplating (see, e.g., Claim 2, and Paragraph [0010]).

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11. Claims 3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogisu in view of Harada, and further in view of Asakura, et al. (PAJ Translated Abstract of Japanese Patent Application Publication Number 10 – 088361, hereafter Asakura).

12. Regarding Claims 3 and 7, Ogisu teaches the method wherein said solution further contains a cationic surface active agent, but not an anionic or a nonionic surface active agent. However, Asakura teaches that it is known in the art to use nonionic surface active agents (e.g., polyethylene lauryl ether) in the alkaline solution neutralization treatment step in these types of methods. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the present invention to have modified the method taught by Ogisu in view of Harada by employing a second solution that further contains a nonionic surface active agent as taught by Asakura, because such alkaline neutralizing solutions are known to be used in the art in these pretreatment processes for electroless plating coating methods.

#### ***Response to Arguments***

13. Due to Applicants' amendments, all previous objections are withdrawn.

14. Applicants' arguments with respect to the invalidity of Honma (U.S. Patent 6,992,060) as prior art under 35 U.S.C. 102(e) have been fully considered and are persuasive. Therefore, the previous rejections over Honma have been withdrawn.

15. Applicant's arguments with respect to claims 1 – 8 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RONALD D. LAFOND whose telephone number is (571) 270-1878. The examiner can normally be reached on M - F, 9:30 AM - 6 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Cleveland can be reached on (571) 272-1418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. D. L./  
Examiner, Art Unit 1792

/Michael Cleveland/  
Supervisory Patent Examiner, Art Unit 1792